STANLEY

# HD45

# HYDRAULIC HAMMER DRILL

## SAFETY, OPERATION AND MAINTENANCE
## USER MANUAL

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New Britain, CT 06053
U.S.A.
66301 4/2014 Ver. 5

# DECLARATION OF CONFORMITY

**DECLARATION OF CONFORMITY**
**ÜBEREINSTIMMUNGS-ERKLARUNG**
**DECLARATION DE CONFORMITE CEE**
**DECLARACION DE CONFORMIDAD**
**DICHIARAZIONE DI CONFORMITA**

CE

STANLEY
Hydraulic Tools

---

I, the undersigned:
Ich, der Unterzeichnende:
Je soussigné:
El abajo firmante:
Io sottoscritto:

**Weisbeck, Andy**

Surname and First names/Familiennname und Vornamen/Nom et prénom/Nombre y apellido/Cognome e nome

**hereby declare that the equipment specified hereunder:**
**bestätige hiermit, daß erklaren Produkt genannten Werk oder Gerät:**
**déclare que l'équipement visé ci-dessous:**
**Por la presente declaro que el equipo se especifica a continuación:**
**Dichiaro che le apparecchiature specificate di seguito:**

1. Category:
   Kategorie:
   Catégorie:
   Categoria:
   Categoria:
   **Hammer Drill, Hydraulic**
2. Make/Marke/Marque/Marca/Marca **Stanley**
3. Type/Typ/Type/Tipo/Tipo: **HD4511001, HD4531001**
4. Serial number of equipment:
   Seriennummer des Geräts:
   Numéro de série de l'équipement:
   Numero de serie del equipo:
   Matricola dell´attrezzatura:
   **All**

**Has been manufactured in conformity with**
**Wurde hergestellt in Übereinstimmung mit**
**Est fabriqué conformément**
**Ha sido fabricado de acuerdo con**
**E' stata costruita in conformitá con**

| Directive/Standards<br>Richtlinie/Standards<br>Directives/Normes<br>Directriz/Los Normas<br>Direttiva/Norme | No.<br>Nr<br>Numéro<br>No<br>n. | Approved body<br>Prüfung durch<br>Organisme agréé<br>Aprobado<br>Collaudato |
|---|---|---|
| EN ISO | 12100-1:2009 | Self |
| EN ISO | 12100-2:2009 | Self |
| EN ISO | 8662-3:1992 | Self |
| EN ISO | 3744:2009 | Self |
| ISOISO | 792-5:1994 | Self |
| Machinery Directive | 2006/42/EC:2006 | Self |

5. Special Provisions: **None**
   Spezielle Bestimmungen:
   Dispositions particulières:
   Provisiones especiales:
   Disposizioni speciali:

6. Representative in the Union: **Patrick Vervier**, **Stanley Dubuis 17-19, rue Jules Berthonneau-BP 3406 41034 Blois Cedex, France.**
   Vertreter in der Union/Représentant dans l'union/Representante en la Union/Rappresentante presso l'Unione

Done at/Ort/Fait à/Dado en/Fatto a Stanley Hydraulic Tools, Milwaukie, Oregon USA Date/Datum/le/Fecha/Data 1-4-11

Signature/Unterschrift/Signature/Firma/Firma Andy Weisbeck

Position/Position/Fonction/Cargo/Posizione Engineering Manager

1/4/2011



STANLEY

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**IMPORTANT**

To fill out a Product Warranty Recording form, and for information on your warranty, visit Stanleyhydraulic.com and select the Warranty tab.
(**NOTE:** The warranty recording form must be submitted to validate the warranty).

**SERVICING THE STANLEY HYDRAULIC HAMMER DRILL.** This manual contains safety, operation, and routine maintenance instructions. Stanley Hydraulic Tools recommends that servicing of hydraulic tools, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.

**⚠ WARNING**

**SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.**

**REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.**

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at the number listed on the back of this manual and ask for a Customer Service Representative.

# SAFETY SYMBOLS

Safety symbols and signal words, as shown below, are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

**⚠ DANGER** — This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**⚠ WARNING** — This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** — This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION** — This signal word indicates a potentially hazardous situation which, if not avoided, may result in property damage.

**NOTICE** — This signal word indicates a situation which, if not avoided, will result in damage to the equipment.

**IMPORTANT** — This signal word indicates a situation which, if not avoided, may result in damage to the equipment.

Always observe safety symbols. They are included for your safety and for the protection of the tool.

## LOCAL SAFETY REGULATIONS

Enter any local safety regulations here. Keep these instructions in an area accessible to the operator and maintenance personnel.

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the tool and hose.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided in this manual.

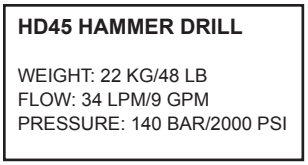
The model HD45 Hydraulic Hammer Drill will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool and hose before operation. Failure to do so could result in personal injury or equipment damage.

- The operator must start in a work area without bystanders. Flying debris can cause serious injury.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor. Establish a training program for all operators to ensure safe operation.
- Always wear safety equipment such as goggles, ear and head protection, and safety shoes at all times when operating the tool. Use gloves and aprons when necessary.
- The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Do not inspect, clean or replace any part(s) if the hydraulic power source is connected. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Always connect hoses to the tool hose couplers before energizing the hydraulic power source. Be sure all hose connections are tight and are in good condition.
- Do not operate the tool at oil temperatures above 140 °F/60 °C. Operation at higher temperatures can cause higher than normal temperatures at the tool which can result in operator discomfort.
- Do not operate a damaged, improperly adjusted, or incompletely assembled hammer drill.
- Never wear loose clothing that can get entangled in the working parts of the tool.
- Keep all parts of your body away from the drill and maintain proper footing and balance at all times.
- When working near electrical conductors, always assume that all conductors are energized and that insulation, clothing and hoses can conduct electricity. Stay a safe distance away from electrical conductors.
- If the hydraulic power supply has been interrupted, place the hammer drill in the OFF position before restarting the hydraulic power supply.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Never rest the tool on your foot.
- Never allow your face to come close to the tool.
- Never start the tool while it is lying on the ground.
- **Warning:** Use of this tool on certain materials during demolition could generate dust potentially containing a variety of hazardous substances such as asbestos, silica or lead. Inhalation of dust containing these or other hazardous substances could result in serious injury, cancer or death. Protect yourself and those around you. Research and understand the materials you are cutting. Follow correct safety procedures and comply with all applicable national, state or provisional health and safety regulations relating to them, including, if appropriate arranging for the safe disposal of the materials by a qualified person.

# TOOL STICKERS & TAGS

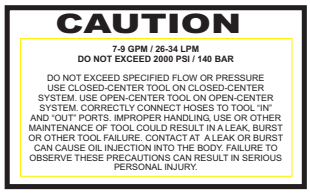
05152
Stanley Decal
28376
Stanley Decal (CE Models)

28409
Composite Decal (CE Models)




29689
Name Tag

66297
Sound Power Decal


CAUTION
7-9 GPM / 26-34 LPM
DO NOT EXCEED 2000 PSI / 140 BAR
DO NOT EXCEED SPECIFIED FLOW OR PRESSURE
USE CLOSED-CENTER TOOL ON CLOSED-CENTER
SYSTEM. USE OPEN-CENTER TOOL ON OPEN-CENTER
SYSTEM. CORRECTLY CONNECT HOSES TO TOOL "IN"
AND "OUT" PORTS. IMPROPER HANDLING, USE OR OTHER
MAINTENANCE OF TOOL COULD RESULT IN A LEAK, BURST
OR OTHER TOOL FAILURE. CONTACT AT A LEAK OR BURST
CAN CAUSE OIL INJECTION INTO THE BODY. FAILURE TO
OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS
PERSONAL INJURY.

03786
HD45 GPM Decal

CE

28322
CE Decal (CE Models Only)

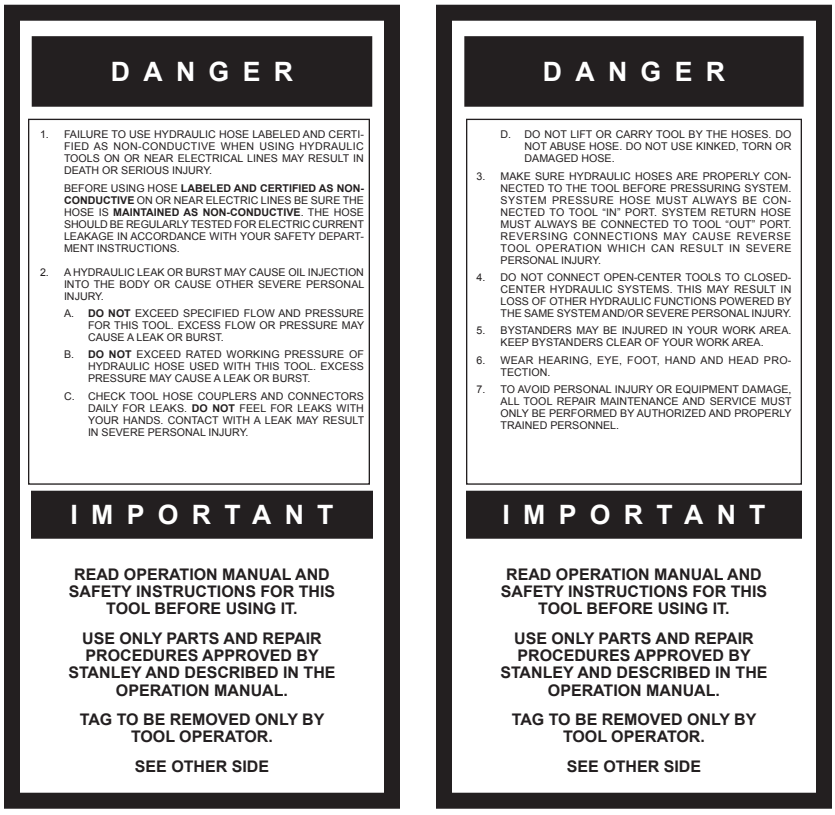
11207
Circuit Type D Decal

**NOTE:**

THE INFORMATION LISTED ON THE STICKERS SHOWN, MUST BE LEGIBLE AT ALL TIMES.

REPLACE DECALS IF THEY BECOME WORN OR DAMAGED. REPLACEMENTS ARE AVAILABLE FROM YOUR LOCAL STANLEY DISTRIBUTOR.

The safety tag (p/n 15875) at right is attached to the tool when shipped from the factory. Read and understand the safety instructions listed on this tag before removal. We suggest you retain this tag and attach it to the tool when not in use.


DANGER
1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.
BEFORE USING HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE ON OR NEAR ELECTRIC LINES BE SURE THE HOSE IS MAINTAINED AS NON-CONDUCTIVE. THE HOSE SHOULD BE REGULARLY TESTED FOR ELECTRIC CURRENT LEAKAGE IN ACCORDANCE WITH YOUR SAFETY DEPARTMENT INSTRUCTIONS.
2. A HYDRAULIC LEAK OR BURST MAY CAUSE OIL INJECTION INTO THE BODY OR CAUSE OTHER SEVERE PERSONAL INJURY.
A. DO NOT EXCEED SPECIFIED FLOW AND PRESSURE FOR THIS TOOL. EXCESS FLOW OR PRESSURE MAY CAUSE A LEAK OR BURST.
B. DO NOT EXCEED RATED WORKING PRESSURE OF HYDRAULIC HOSE USED WITH THIS TOOL. EXCESS PRESSURE MAY CAUSE A LEAK OR BURST.
C. CHECK TOOL HOSE COUPLERS AND CONNECTORS DAILY FOR LEAKS. DO NOT FEEL FOR LEAKS WITH YOUR HANDS. CONTACT WITH A LEAK MAY RESULT IN SEVERE PERSONAL INJURY.
IMPORTANT
READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.
USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.
TAG TO BE REMOVED ONLY BY TOOL OPERATOR.
SEE OTHER SIDE
DANGER
D. DO NOT LIFT OR CARRY TOOL BY THE HOSES. DO NOT ABUSE HOSE. DO NOT USE KINKED, TORN OR DAMAGED HOSE.
3. MAKE SURE HYDRAULIC HOSES ARE PROPERLY CONNECTED TO THE TOOL BEFORE PRESSURING SYSTEM. SYSTEM PRESSURE HOSE MUST ALWAYS BE CONNECTED TO TOOL "IN" PORT. SYSTEM RETURN HOSE MUST ALWAYS BE CONNECTED TO TOOL "OUT" PORT. REVERSING CONNECTIONS MAY CAUSE REVERSE TOOL OPERATION WHICH CAN RESULT IN SEVERE PERSONAL INJURY.
4. DO NOT CONNECT OPEN-CENTER TOOLS TO CLOSED-CENTER HYDRAULIC SYSTEMS. THIS MAY RESULT IN LOSS OF OTHER HYDRAULIC FUNCTIONS POWERED BY THE SAME SYSTEM AND/OR SEVERE PERSONAL INJURY.
5. BYSTANDERS MAY BE INJURED IN YOUR WORK AREA. KEEP BYSTANDERS CLEAR OF YOUR WORK AREA.
6. WEAR HEARING, EYE, FOOT, HAND AND HEAD PROTECTION.
7. TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE, ALL TOOL REPAIR MAINTENANCE AND SERVICE MUST ONLY BE PERFORMED BY AUTHORIZED AND PROPERLY TRAINED PERSONNEL.
IMPORTANT
READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.
USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.
TAG TO BE REMOVED ONLY BY TOOL OPERATOR.
SEE OTHER SIDE

**SAFETY TAG P/N 15875** (shown smaller then actual size)

# HOSE TYPES

The rated working pressure of the hydraulic hose must be equal to or higher than the relief valve setting on the hydraulic system. There are three types of hydraulic hose that meet this requirement and are authorized for use with Stanley Hydraulic Tools. They are:

**Certified non-conductive** — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *Hose labeled **certified non-conductive** is the only hose authorized for use near electrical conductors.*

**Wire-braided** (conductive) — constructed of synthetic rubber inner tube, single or double wire braid reinforcement, and weather resistant synthetic rubber cover. *This hose is **conductive** and must never be used near electrical conductors.*

**Fabric-braided** (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is **not certified non-conductive** and must never be used near electrical conductors.*

## HOSE SAFETY TAGS

To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley Hydraulic Tools. DO NOT REMOVE THESE TAGS.

If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley Distributor.

**THE TAG SHOWN BELOW IS ATTACHED TO "CERTIFIED NON-CONDUCTIVE" HOSE**

DO NOT REMOVE THIS TAG

**D A N G E R**

1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRIC LINES MAY RESULT IN DEATH OR SERIOUS INJURY.

   FOR PROPER AND SAFE OPERATION MAKE SURE THAT YOU HAVE BEEN PROPERLY TRAINED IN CORRECT PROCEDURES REQUIRED FOR WORK ON OR AROUND ELECTRIC LINES.

2. BEFORE USING HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE ON OR NEAR ELECTRIC LINES. WIPE THE ENTIRE LENGTH OF THE HOSE AND FITTING WITH A CLEAN DRY ABSORBENT CLOTH TO REMOVE DIRT AND MOISTURE AND TEST HOSE FOR MAXIMUM ALLOWABLE CURRENT LEAKAGE IN ACCORDANCE WITH SAFETY DEPARTMENT INSTRUCTIONS.

SEE OTHER SIDE

SIDE 1

**D A N G E R**

3. **DO NOT** EXCEED HOSE WORKING PRESSURE OR ABUSE HOSE. IMPROPER USE OR HANDLING OF HOSE COULD RESULT IN BURST OR OTHER HOSE FAILURE. KEEP HOSE AS FAR AWAY AS POSSIBLE FROM BODY AND **DO NOT** PERMIT DIRECT CONTACT DURING USE. CONTACT AT THE BURST CAN CAUSE BODILY INJECTION AND SEVERE PERSONAL INJURY.
4. HANDLE AND ROUTE HOSE CAREFULLY TO AVOID KINKING, ABRASION, CUTTING, OR CONTACT WITH HIGH TEMPERATURE SURFACES. **DO NOT** USE IF KINKED. **DO NOT** USE HOSE TO PULL OR LIFT TOOLS, POWER UNITS, ETC.
5. CHECK ENTIRE HOSE FOR CUTS CRACKS LEAKS ABRASIONS, BULGES, OR DAMAGE TO COUPLINGS IF ANY OF THESE CONDITIONS EXIST, REPLACE THE HOSE IMMEDIATELY. NEVER USE TAPE OR ANY DEVICE TO ATTEMPT TO MEND THE HOSE.
6. AFTER EACH USE STORE IN A CLEAN DRY AREA.

SEE OTHER SIDE

DO NOT REMOVE THIS TAG

SIDE 2

(Shown smaller than actual size)

**THE TAG SHOWN BELOW IS ATTACHED TO "CONDUCTIVE" HOSE.**

DO NOT REMOVE THIS TAG

**D A N G E R**

1. DO NOT USE THIS HYDRAULIC HOSE ON OR NEAR ELECTRIC LINES. THIS HOSE IS NOT LABELED OR CERTIFIED AS NON-CONDUCTIVE. USING THIS HOSE ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.
2. FOR PROPER AND SAFE OPERATION MAKE SURE THAT YOU HAVE BEEN PROPERLY TRAINED IN CORRECT PROCEDURES REQUIRED FOR WORK ON OR AROUND ELECTRIC LINES.
3. **DO NOT** EXCEED HOSE WORKING PRESSURE OR ABUSE HOSE. IMPROPER USE OR HANDLING OF HOSE COULD RESULT IN BURST OR OTHER HOSE FAILURE. KEEP HOSE AS FAR AWAY AS POSSIBLE FROM BODY AND **DO NOT** PERMIT DIRECT CONTACT DURING USE. CONTACT AT THE BURST CAN CAUSE BODILY INJECTION AND SEVERE PERSONAL INJURY.
4. HANDLE AND ROUTE HOSE CAREFULLY TO AVOID KINKING, CUTTING, OR CONTACT WITH HIGH TEMPERATURE SURFACES. **DO NOT** USE IF KINKED. **DO NOT** USE HOSE TO PULL OR LIFT TOOLS, POWER UNITS, ETC.

SEE OTHER SIDE

SIDE 1

**D A N G E R**

5. CHECK ENTIRE HOSE FOR CUTS CRACKS LEAKS ABRASIONS, BULGES, OR DAMAGE TO COUPLINGS IF ANY OF THESE CONDITIONS EXIST, REPLACE THE HOSE IMMEDIATELY. NEVER USE TAPE OR ANY DEVICE TO ATTEMPT TO MEND THE HOSE.
6. AFTER EACH USE STORE IN A CLEAN DRY AREA.

SEE OTHER SIDE

DO NOT REMOVE THIS TAG

SIDE 2

(Shown smaller than actual size)

## Tool to Hydraulic Circuit Hose Recommendations

The chart to the right shows recommended minimum hose diameters for various hose lengths based on gallons per minute (gpm)/ liters per minute (lpm). These recommendations are intended to keep return line pressure (back pressure) to a minimum acceptable level to ensure maximum tool performance.

This chart is intended to be used for hydraulic tool applications only based on Stanley Hydraulic Tools tool operating requirements and should not be used for any other applications.

All hydraulic hose must have at least a rated minimum working pressure equal to the maximum hydraulic system relief valve setting.

**All hydraulic hose must meet or exceed specifications as set forth by SAE J517.**

| Oil Flow | | Hose Lengths | | Inside Diameter | | USE (Press/Return) | Min. Working Pressure | |
|---|---|---|---|---|---|---|---|---|
| GPM | LPM | FEET | METERS | INCH | MM | | PSI | BAR |
| **Certified Non-Conductive Hose - Fiber Braid - for Utility Bucket Trucks** | | | | | | | | |
| 4-9 | 15-34 | up to 10 | up to 3 | 3/8 | 10 | Both | 2250 | 155 |
| **Conductive Hose - Wire Braid or Fiber Braid -DO NOT USE NEAR ELECTRICAL CONDUCTORS** | | | | | | | | |
| 4-6 | 15-23 | up to 25 | up to 7.5 | 3/8 | 10 | Both | 2500 | 175 |
| 4-6 | 15-23 | 26-100 | 7.5-30 | 1/2 | 13 | Both | 2500 | 175 |
| 5-10.5 | 19-40 | up to 50 | up to 15 | 1/2 | 13 | Both | 2500 | 175 |
| 5-10.5 | 19-40 | 51-100 | 15-30 | 5/8 | 16 | Both | 2500 | 175 |
| 5-10.5 | 19-40 | 100-300 | 30-90 | 5/8 | 16 | Pressure | 2500 | 175 |
| | | | | 3/4 | 19 | Return | 2500 | 175 |
| 10-13 | 38-49 | up to 50 | up to 15 | 5/8 | 16 | Both | 2500 | 175 |
| 10-13 | 38-49 | 51-100 | 15-30 | 5/8 | 16 | Pressure | 2500 | 175 |
| | | | | 3/4 | 19 | Return | 2500 | 175 |
| 10-13 | 38-49 | 100-200 | 30-60 | 3/4 | 19 | Pressure | 2500 | 175 |
| | | | | 1 | 25.4 | Return | 2500 | 175 |
| 13-16 | 49-60 | up to 25 | up to 8 | 5/8 | 16 | Pressure | 2500 | 175 |
| | | | | 3/4 | 19 | Return | 2500 | 175 |
| 13-16 | 49-60 | 26-100 | 8-30 | 3/4 | 19 | Pressure | 2500 | 175 |
| | | | | 1 | 25.4 | Return | 2500 | 175 |

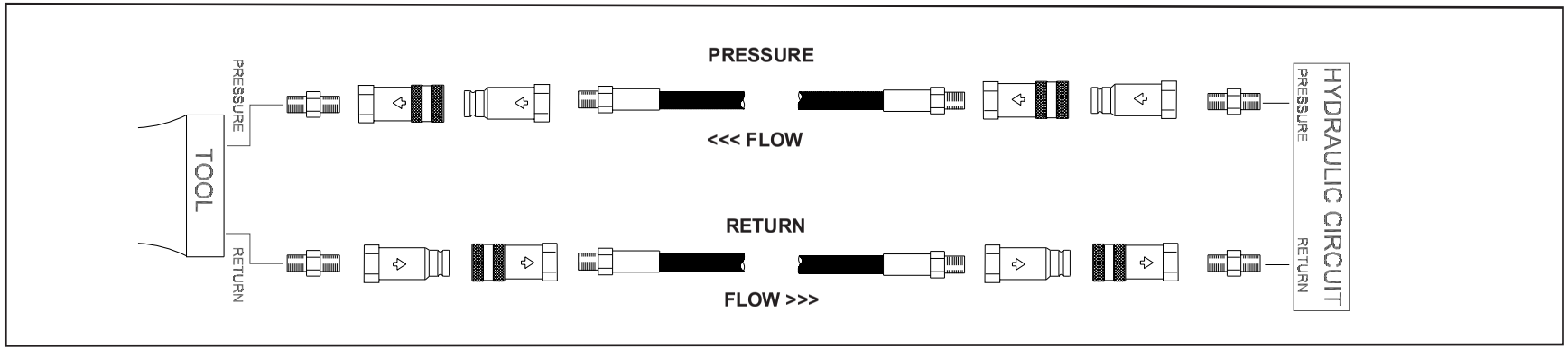



Figure 1. Typical Hose Connections

## HTMA / EHTMA REQUIREMENTS

| HTMA HYDRAULIC SYSTEM REQUIREMENTS | TOOL TYPE TYPE I | TYPE II | TYPE RR | TYPE III |
|---|---|---|---|---|
| Flow Range | 4-6 gpm (15-23 lpm) | 7-9 gpm (26-34 lpm) | 9-10.5 gpm (34-40 lpm) | 11-13 gpm (42-49 lpm) |
| Nominal Operating Pressure (at the power supply outlet) | 1500 psi (103 bar) | 1500 psi (103 bar) | 1500 psi (103 bar) | 1500 psi (103 bar) |
| System relief valve setting (at the power supply outlet) | 2100-2250 psi (145-155 bar) | 2100-2250 psi (145-155 bar) | 2200-2300 psi (152-159 bar) | 2100-2250 psi (145-155 bar) |
| Maximum back pressure (at tool end of the return hose) | 250 psi (17 bar) | 250 psi (17 bar) | 250 psi (17 bar) | 250 psi (17 bar) |
| Measured at a max. fluid viscosity of: (at min. operating temperature) | 400 ssu* (82 centistokes) | 400 ssu* (82 centistokes) | 400 ssu* (82 centistokes) | 400 ssu* (82 centistokes) |
| Temperature: Sufficient heat rejection capacity to limit max. fluid temperature to: (at max. expected ambient temperature) | 140° F (60° C) | 140° F (60° C) | 140° F (60° C) | 140° F (60° C) |
| Min. cooling capacity at a temperature difference of between ambient and fluid temps | 3 hp (2.24 kW) 40° F (22° C) | 5 hp (3.73 kW) 40° F (22° C) | 6 hp (5.22 kW) 40° F (22° C) | 7 hp (4.47 kW) 40° F (22° C) |
| **NOTE:** Do not operate the tool at oil temperatures above 140° F (60° C). Operation at higher temperatures can cause operator discomfort at the tool. | | | | |
| Filter Min. full-flow filtration Sized for flow of at least: (For cold temp. startup and max. dirt-holding capacity) | 25 microns 30 gpm (114 lpm) | 25 microns 30 gpm (114 lpm) | 25 microns 30 gpm (114 lpm) | 25 microns 30 gpm (114 lpm) |
| Hydraulic fluid Petroleum based (premium grade, anti-wear, non-conductive) Viscosity (at min. and max. operating temps) | 100-400 ssu* | 100-400 ssu* (20-82 centistokes) | 100-400 ssu* | 100-400 ssu* |

**NOTE:**
When choosing hydraulic fluid, the expected oil temperature extremes that will be experienced in service determine the most suitable temperature viscosity characteristics. Hydraulic fluids with a viscosity index over 140 will meet the requirements over a wide range of operating temperatures.

*SSU = Saybolt Seconds Universal

| EHTMA HYDRAULIC SYSTEM REQUIREMENTS | CLASSIFICATION B (15Lpm at 138bar EHTMA CATEGORY) | C (20Lpm at 138bar EHTMA CATEGORY) | D (30Lpm at 138bar EHTMA CATEGORY) | E (40Lpm at 138bar EHTMA CATEGORY) | F (50Lpm at 138bar EHTMA CATEGORY) |
|---|---|---|---|---|---|
| Flow Range | 3.5-4.3 gpm (13.5-16.5 lpm) | 4.7-5.8 gpm (18-22 lpm) | 7.1-8.7 gpm (27-33 lpm) | 9.5-11.6 gpm (36-44 lpm) | 11.8-14.5 gpm (45-55 lpm) |
| Nominal Operating Pressure (at the power supply outlet) | 1870 psi (129 bar) | 1500 psi (103 bar) | 1500 psi (103 bar) | 1500 psi (103 bar) | 1500 psi (103 bar) |
| System relief valve setting (at the power supply outlet) | 2495 psi (172 bar) | 2000 psi (138 bar) | 2000 psi (138 bar) | 2000 psi (138 bar) | 2000 psi (138 bar) |

**NOTE:** These are general hydraulic system requirements. See tool specification page for tool specific requirements

# OPERATION

## PREOPERATION PROCEDURES

### CHECK POWER SOURCE

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7-9 gpm/26-34 lpm at 1500-2000 psi/105-140 bar.
2. Make certain that the hydraulic power source is equipped with a relief valve set to open at 2250 psi/155 bar.

### CHECK THE TOOL

1. Make certain all tool accessories are correctly installed. Failure to install tool accessories properly can result in damage to the tool or personal injury.
2. There should be no signs of leaks.
3. The tool should be clean and dry with all fittings and fasteners tight.

## BIT INSTALLATION

The hammer drill is designed for use with 1-inch to 2-inch diameter bits manufactured for Model 736 Skil Hex Hammer Drills.

1. Pull the latch at the foot of the tool so that the drill can be inserted into the drive hex.

**⚠ WARNING**

Do not allow your fingers to come between the latch and drill steel when closing the latch.

2. Push the latch back into the “latched” (vertical) position to lock the bit in place.

### CONNECT HOSES

1. Wipe all hose couplers with a clean lint-free cloth before making connections.
2. Connect the hoses from the hydraulic power source to the tool fittings or quick disconnects. Connect the return hose first and disconnect it last to eliminate or reduce trapped pressure for easier quick-connect fitting attachment.

**NOTE:**

**If uncoupled hoses are left in the sun, pressure increase within the hoses can make them difficult to connect. Whenever possible, connect the free ends of hoses together.**

3. Observe the flow indicators stamped on the hose couplers to ensure that the flow is in the proper direction. The female coupler on the tool’s “IN” port is the inlet coupler. See illustration in back of this manual for tool port identification.
4. Squeeze the drill trigger momentarily. If the drill does not operate, the hoses might be reversed. Verify correct connection of the hoses before continuing.

## DRILL OPERATION

1. Observe all safety precautions.
2. Install the appropriate drill bit for the job.

**NOTE:**

**The rotation of the drill bit is reversible. Drill bit speed is variable in each direction. This is accomplished by rotating the lever on the lower section of the tool. The tool is in neutral when the lever is in the vertical “up” position. The lever can be rotated 90° to the “horizontal” position in each direction. (The direction that the bit rotates.) The distance that the lever is rotated determines the speed of the bit. The horizontal position in either direction is the maximum speed setting.**

3. Select the speed of the bit best suited for the material being drilled. Most drilling is best accomplished with the lever halfway between fully “On” (horizontal) and the vertical “up” position. Refer to the above note. The drill is not suitable for drilling steel or wood.
4. Squeeze the trigger to start the drill. Adequate down pressure is very important.

**NOTE:**

**If the trigger is partially depressed, the piston will cycle at a low rate and permit easier starting of the drill bit into the work surface.**

5. Periodically pull the drill out of the hole while the bit is still rotating. This will clear the hole and allow more efficient penetration.
6. If the bit binds in the hole, reverse direction of the bit rotation to assist in “backing out” the drill.
7. Keep the drill bit centered in the hole.

## COLD WEATHER OPERATION

If the drill is to be used during cold weather, preheat the hydraulic fluid at low engine speed. When using the normally recommended fluids, fluid temperature should be at or above 50 °F/10 °C (400 SSU/ 82 centistokes) before use.

Damage to the hydraulic system or drill can result from use with fluid that is too viscous or too thick.

## UNDERWATER MODEL PREVENTATIVE MAINTENANCE

After each use, the movable portions of the tool that were exposed to water should be flushed with a water displacing oil such as WD40®. Remove any remaining water and debris as follows:

1. Turn the tool upside down (without the tool bit) and spray oil through the drive hex and side holes in the motor assembly to displace any remaining water in the lower piston cavity.
2. Spray oil into the On/Off valve trigger slot area.
3. Dip or spray the entire tool.
4. Cycle the tool hydraulically several times before storing away.

# CHARGING THE ACCUMULATOR

## ACCUMULATOR TESTING PROCEDURE

To check or charge the accumulator the following equipment is required:

31254 Charge Kit: which includes the following.

- Accumulator Tester (Part Number 02835).
- Charging Assembly (Part Number 15304).

  (P/N 15304 includes a liquid filled gauge with snub valve, hose and fittings.)
- NITROGEN bottle with an 1000 psi/70 bar minimum charge. (Not included in 31254 Charge Kit.)

1. Remove the valve cap assembly from the hammer drill.
2. Holding the chuck end of Accumulator Tester (Part Number 02835) turn the gauge fully counterclockwise to ensure that the stem inside the chuck is completely retracted.
3. Thread the tester onto the accumulator charging valve. Do not advance the gauge-end into the chuck-end. Turn as a unit. Seat the chuck on the accumulator charging valve and hand tighten only.
4. Advance the valve stem of the tester by turning the gauge-end clockwise until a pressure is read on the gauge (charge pressure should be 500-700 psi/34-48 bar).
5. If pressure is OK unscrew the gauge-end from the chuck to retract the stem, then unscrew the entire tester assembly from the accumulator charging valve. If pressure is low, charge the accumulator as described in the following procedure.
6. Install the protective valve cap assembly.

## ACCUMULATOR CHARGING

1. Perform steps 1 through 4 of the accumulator testing procedure above.
2. Connect the chuck of the charging assembly to the charging valve on the accumulator tester or, if preferred, remove the tester from the charging valve and connect the charging assembly chuck directly to the charging valve.
3. Adjust the regulator to the charging pressure of 600 psi/42 bar.

**NOTE:**

**It may be necessary to set the gauge at 650-700 psi/45-48 bar to overcome any pressure drop through the charging system.**

4. Open the valve on the charging assembly hose.

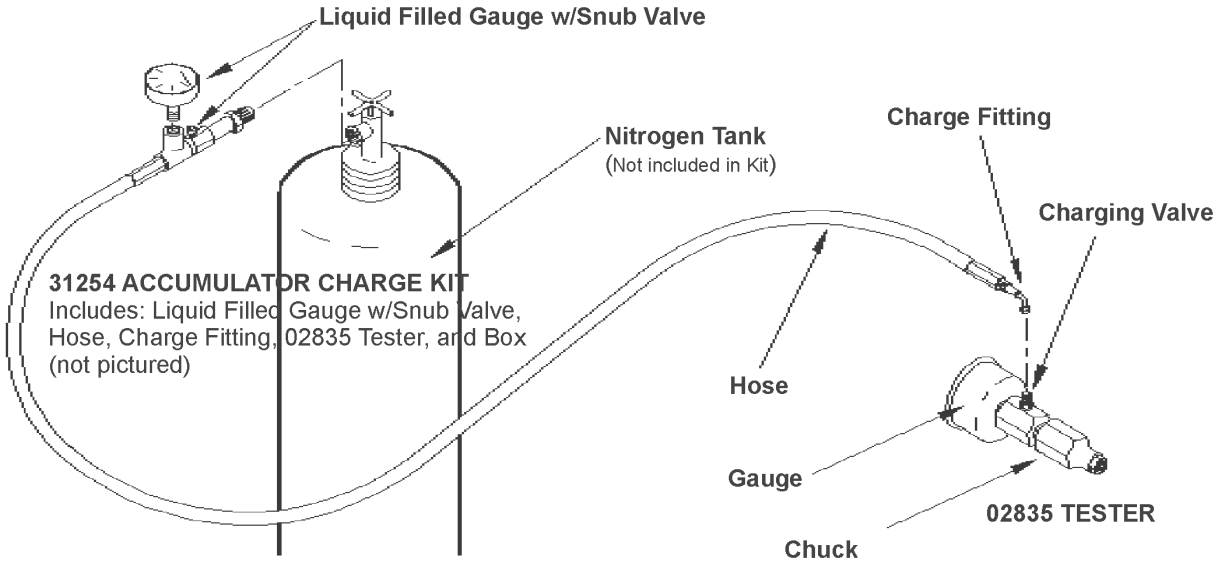
**IMPORTANT**

If the underwater model is to be used at depths greater than 300 ft/91 m, increase the accumulator charge 40 psi/3 bar for each 100 ft/30 m of depth to offset water pressure.

5. When the accumulator is fully charged close the valve on the charging assembly hose and remove the charging assembly chuck from the accumulator tester or tool charging valve.
6. If the accumulator tester has been used, be sure to turn the gauge-end fully counterclockwise before removing the tester from the charging valve of the tool.
7. Replace the valve cap assembly.

## GENERAL SERVICE NOTES

1. If the hammer drill is repainted after servicing, be sure to mask off the vent in the valve cap assembly. Do not allow paint to enter the IN and OUT ports or the bore of the motor assembly.
2. If the handle grips need to be replaced.
   a. Remove the old grips and clean the handle.
   b. Wash the new grips and the handle clean and dry, simply push or drive the grips on. DO NOT lubricate the parts. The grips will not be secure on the handle if any grease or oil is used.



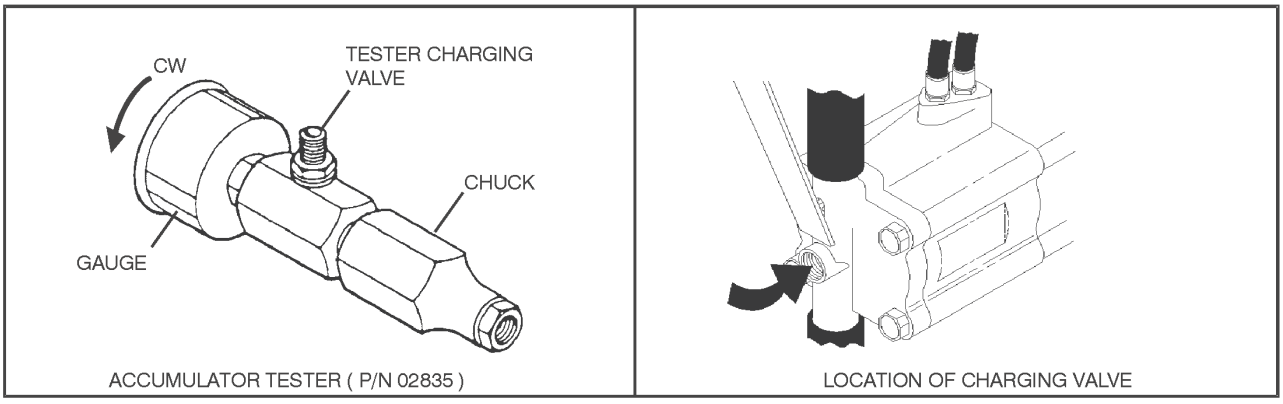




Figure 2. Charging the Accumulator

# TOOL PROTECTION & CARE

**NOTICE**

In addition to the Safety Precautions found in this manual, observe the following for equipment protection and care.

- Make sure all couplers are wiped clean before connection.
- The hydraulic circuit control valve must be in the “OFF” position when coupling or uncoupling hydraulic tools. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the “IN” port. The circuit RETURN hose (with female quick disconnect) is connected to the opposite port. Do not reverse circuit flow. This can cause damage to internal seals.
- Always replace hoses, couplings and other parts with replacement parts recommended by Stanley Hydraulic Tools. Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.
- Do not exceed the rated flow (see Specifications) page in this manual for correct flow rate and model number. Rapid failure of the internal seals may result.
- Always keep critical tool markings, such as warning stickers and tags legible.
- Tool repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.
- Do not use the tool for applications for which it was not intended.
- Never operate a hammer drill without a drill bit or without holding it against the work surface. To do so, places excessive strain on the hammer drill.
- Keep drill bits sharp for maximum tool performance. Make sure the drill bits are not chipped or rounded on the striking end.

# TROUBLESHOOTING

If symptoms of poor performance develop, the following chart can be used as a guide to correct the problem.

When diagnosing faults in operation of the hammer drill, always check that the hydraulic power source is supplying the correct hydraulic flow and a pressure to the tool as listed in the table. Use a flowmeter known to be accurate. Check the flow with the hydraulic fluid temperature at least 80 °F / 27 °C.

| Problem | Cause | Solution |
|---|---|---|
| Drill does not run. | Power unit not functioning | Check power unit for proper flow and pressure (7–9 gpm/26–34 lpm, 1500–2000 psi/104–140 bar). |
| | Couplers or hoses blocked. | Remove restriction. |
| | Flow direction reversed. Pressure and return lined hoses reversed at ports. | Be sure hoses are connected to their proper ports. |
| | Mechanical failure of piston or automatic valve. | Disassemble drill and inspect for damaged parts. |
| Drill does not drill effectively. | Power unit not functioning. | Check power unit for proper flow and pressure (7–9 gpm/26–34 lpm, 1500–2000 psi/104–140 bar). |
| | Couplers or hoses blocked. | Remove restriction. |
| | Low accumulator charge (pressure hose will pulse more than normal). | Recharge accumulator. Replace diaphragm if charge loss continues. |
| | Oil too hot (above 140 °F/60 °C). | Provide cooler to maintain proper oil temperature. |
| Drill operates slow. | Low flow supply from power unit. | Check power unit for proper flow (7–9 gpm/26–34 lpm). |
| | High backpressure. | Check hydraulic system for excessive backpressure (over 250 psi/17 bar). |
| | Couplers or hoses blocked. | Remove restriction. |
| | Orifice plug or internal passage blocked. | Remove restriction. |
| | Oil too hot (above 140 °F/60 °C) or too cold (below 60 °F/16 °C). | Check power unit for proper oil temperatures. Bypass cooler to warm oil up or provide cooler to maintain proper temperature. |
| | Relief valve set too low. | Adjust relief valve to 2100–2250 psi/145–155 bar. |
| Drill gets hot. | Hot oil going through tool. | Check power unit. Be sure flow rate is not too high causing part of the oil to go through the relief valve. Provide cooler to maintain proper oil temperature (140 °F/60 °C maximum). |
| | | Check relief valve setting. |
| Oil leakage on drill bit. | Lower piston or drive hex seal failure. | Replace seals. |
| Oil leakage around trigger. | Valve spool seal failure. | Replace seals. |
| Low rotation torque. | Motor not completely broken in. | Continued operation or break in with motor break-in block will correct. |
| | Damage to motor clearances. | Repair as required. |
| | Mechanical binding during drilling. | Take care to guide drill straight. |

# SPECIFICATIONS

Operating Pressure ..... 1500-2000 psi / 105-140 bar
Flow Range ..... 7–9 gpm / 26–34 lpm
Optimum Flow ..... 8 gpm / 30 lpm
Capacity ..... 1- to 2-in. / 25–50 mm Dia. No. 736 Skil Carbide Tipped Drill Bit
Porting ..... 8 SAE O-ring
Connect Size and Type ..... 3/8 in. Male Pipe Hose End
System ..... Open Center, HTMA Type II/ETMA Category D
Rotating Speed ..... 0-300 RPM (Forward or Reverse)
Hose Whips ..... Yes
Weight ..... 45 lb / 20.4 kg
Length ..... 14 in. / 35.6 cm
Motor ..... Integral

| SOUND POWER AND VIBRATION DECLARATION | |
|---|---|
| Test conducted on HD45310E, S/N 5606 operated at standard 8 gpm input | |
| Measured A-weighted sound power level, Lwa (ref. 1pW) in decibels | 111 dBA |
| Uncertainty, Kwa, in decibels | 3 dBA |
| Measured A-weighted sound pressure level, Lpa (ref. 20 µPa) at operator's position, in decibels | 98 dBA |
| Uncertainty, Kpa, in decibels | 3 dBA |
| Values determined according to noise test code given in ISO 15744, using the basic standard ISO 3744.<br>**NOTE:** The sum of a measured noise emission value and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements. | |
| Declared vibration emission value in accordance with EN 12096 | |
| Measured vibration emission value: a | 25.6 m/sec² |
| Uncertainty: K | 8.4 m/sec² |
| Values determined according to ISO 8662-3 | |

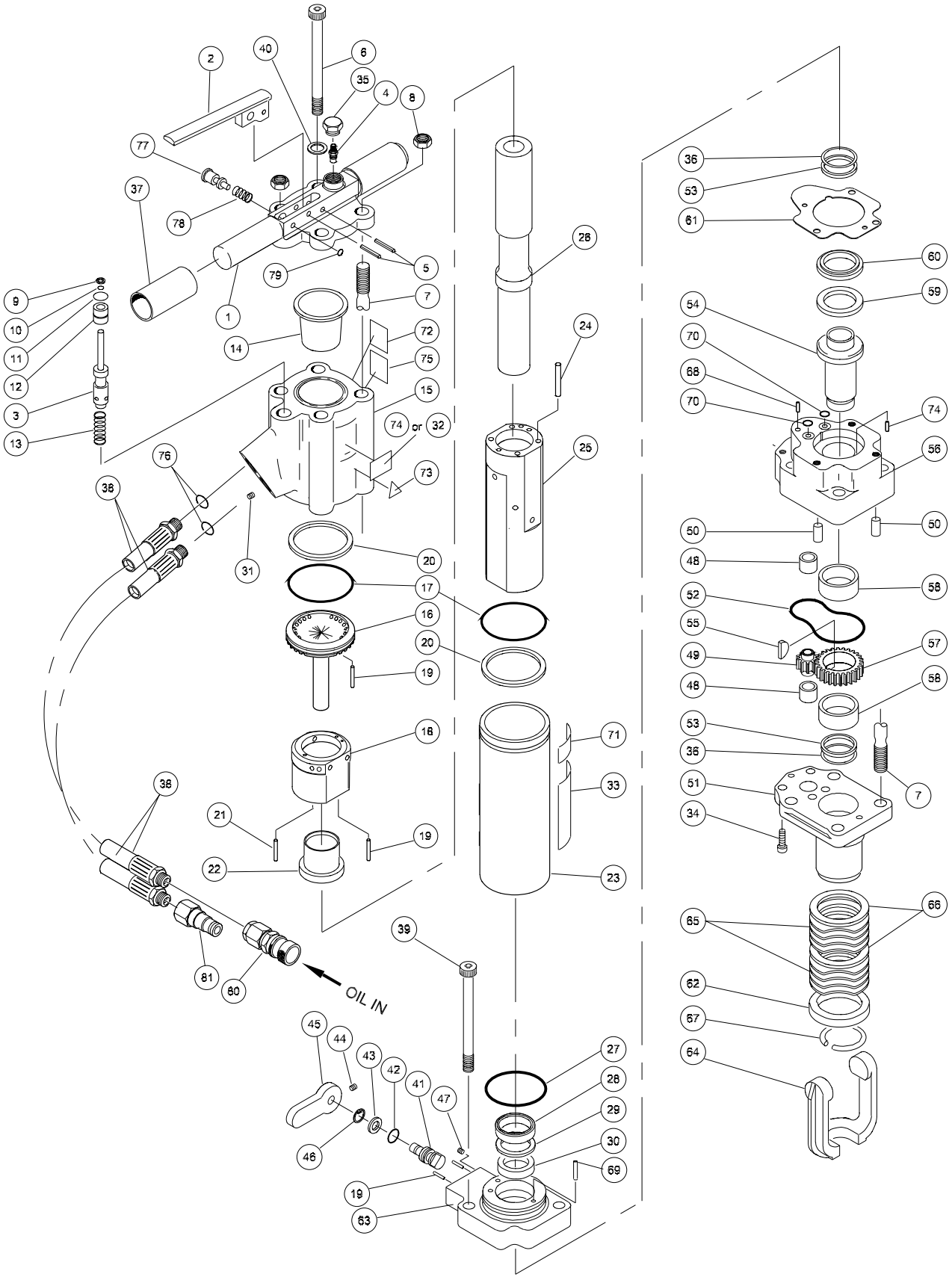
# ACCESSORIES

Carbide Bit 1 in. × 24 in. Long (Drills 14-7/8 in. Deep) ..... 02281
Carbide Bit 1-1/4 in. × 24 in. Long (Drills 14-7/8 in. Deep) ..... 02282
Carbide Bit 2 in. × 24 in. Long (Drills 14-3/4 in. Deep) ..... 02283
Carbide Bit 1 in. × 18 in. Long (Drills 8-7/8 in. Deep) ..... 04668
Carbide Bit 1-1/4 in. × 36 in. Long (Drills 29 in. Deep) ..... 04896

# SERVICE TOOLS

Tamper Sleeve Tool ..... 01120
Accumulator Tester ..... 02835
Flow and Pressure Tester ..... 04182
O-ring Tool Kit ..... 04337
Flow Sleeve Removal Tube ..... 04910
Flow Sleeve Removal Tool ..... 04919
Bearing Installation Tool ..... 05044
Latch Removal Tool ..... 05045
Bearing Installation Tool ..... 05061
Latch Installation Tool ..... 05062
Accumulator Cylinder Puller ..... 05640
Seal Kit ..... 05839
Latch Installation Tool ..... 05879
Accumulator Charge Kit ..... 31254

# HD45 PARTS ILLUSTRATION



# HD45 PARTS LIST

| ITEM NO. | PART NO. | QTY. | DESCRIPTION |
|---|---|---|---|
| 1 | 07483 | 1 | HANDLE |
| | 11358 | 1 | HANDLE (HD4511001, HD4531001 ONLY) |
| 2 | 04371 | 1 | TRIGGER |
| 3 | 04077 | 1 | VALVE SPOOL, OC |
| | 04593 | 1 | VALVE SPOOL, CC |
| 4 | 20499 | 1 | CHARGING VALVE |
| 5 | 00844 | 2 | SPIROL PIN, 1/4 × 1/2 |
| 6 | 04372 | 2 | CAPSCREW |
| 7 | 04932 | 2 | SIDE ROD |
| 8 | 04374 | 2 | LOCK NUT |
| 9 | 04056 | 1 | ROD WIPER |
| 10 | 01362 | 1 | O-RING |
| 11 | 00293 | 1 | O-RING |
| 12 | 04057 | 1 | BUSHING |
| 13 | 04058 | 1 | SPRING |
| 14 | 07479 | 1 | ACCUMULATOR DIAPHRAGM |
| 15 | 05988 | 1 | ACCUMULATOR, VALVE BLOCK ASSY |
| 16 | 04378 | 1 | PORTING BLOCK |
| 17 | 04379 | 2 | O-RING |
| 18 | 04380 | 1 | AUTOMATIC VALVE BODY |
| 19 | 02900 | 4 | ROLL PIN, 1/8 × 1/2 |
| 20 | 04381 | 2 | BACK-UP RING |
| 21 | 04571 | 2 | PUSH PIN |
| 22 | 04382 | 1 | AUTOMATIC VALVE |
| 23 | 04383 | 1 | FLOW SLEEVE TUBE |
| 24 | 04605 | 4 | PUSH PIN |
| 25 | 04384 | 1 | FLOW SLEEVE |
| 26 | 04954 | 1 | PISTON |
| 27 | 02022 | 1 | O-RING |
| 28 | 04386 | 1 | CUP SEAL |
| 29 | 04780 | 1 | WASHER |
| 30 | 04934 | 1 | CUP SEAL |
| 31 | 05243 | 1 | ORIFICE PLUG |
| 32 | 03786 | 1 | GPM DECAL |
| 33 | 05152 | 1 | STANLEY DECAL |
| 34 | 00682 | 2 | CAPSCREW |
| 35 | 07493 | 1 | CHARGE VALVE CAP |
| 36 | 11197 | 2 | BACK-UP RING |
| 37 | 02494 | 2 | HANDLE GRIP |
| 38 | 01652 | 2 | HOSE ASSY |
| 39 | 04936 | 2 | CAPSCREW |
| 40 | 25534 | 2 | WASHER |
| 41 | 04937 | 1 | MOTOR CONTROL VALVE |
| 42 | 01211 | 1 | O-RING |

| ITEM NO. | PART NO. | QTY. | DESCRIPTION |
|---|---|---|---|
| 43 | 04938 | 1 | WASHER |
| 44 | 01607 | 1 | SET SCREW |
| 45 | 04939 | 1 | LEVER |
| 46 | 04940 | 1 | RETAINING RING |
| 47 | 00783 | 2 | PIPE PLUG |
| 48 | 03826 | 2 | BEARING |
| 49 | 04033 | 1 | IDLER GEAR |
| 50 | 00713 | 2 | DOWEL PIN |
| 51 | 04942 | 1 | MOTOR PLATE |
| 52 | 01257 | 1 | O-RING |
| 53 | 11196 | 2 | QUAD RING |
| 54 | 04944 | 1 | DRIVE HEX (LAND MODEL) |
| | 06678 | 1 | DRIVE HEX (U/W MODEL) |
| 55 | 04787 | 1 | KEY |
| 56 | 05976 | 1 | MOTOR CHAMBER |
| 57 | 05975 | 1 | DRIVE GEAR |
| 58 | 04947 | 2 | BEARING |
| 59 | 04948 | 1 | THRUST WASHER |
| 60 | 04949 | 1 | THRUST BACK-UP WASHER |
| 61 | 04950 | 1 | GASKET |
| 62 | 04759 | 1 | SPRING BACK-UP |
| 63 | 04951 | 1 | DRIVE MOTOR CONTROL BLOCK (LAND MODEL) |
| | 06680 | 1 | DRIVE MOTOR CONTROL BLOCK (U/W MODEL) |
| 64 | 16445 | 1 | LATCH |
| 65 | 07063 | 8 | WAVE SPRING |
| 66 | 04756 | 2 | LATCH WASHER |
| 67 | 04761 | 1 | RETAINING RING |
| 68 | 01749 | 2 | ROLL PIN |
| 69 | 00114 | 1 | ROLL PIN |
| 70 | 00018 | 2 | O-RING |
| 71 | 29689 | 1 | NAME TAG (CE ONLY) |
| 72 | 66297 | 1 | SOUND POWER DECAL (CE ONLY) |
| 73 | 11207 | 1 | CIRCUIT TYPE D DECAL (CE ONLY) |
| 74 | 28322 | 1 | CE DECAL (CE ONLY) |
| 75 | 28409 | 1 | COMPOSITE DECAL (CE ONLY) |
| 76 | 01605 | 2 | O-RING |
| 77 | 07594 | 1 | TRIGGER LOCK |
| 78 | 07593 | 1 | SPRING |
| 79 | 00224 | 1 | RETAINER RING |
| 80 | 03972 | 1 | COUPLER, FEMALE |
| 81 | 03973 | 1 | COUPLER, MALE |
| | 03971 | 1 | COUPLER SET |
| | 05839 | 1 | SEAL KIT |



STANLEY

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